

Lactococcus lactis: LAB model organism for bacteria-mediated therapeutic strategies

ABSTRACT

Lactococcus lactis is a well-characterized, food-grade lactic acid bacterium (LAB) with generally recognized as safe (GRAS) status. Better understanding of this bacterium at a molecular level has led to the development of unprecedented genetic tools that enable the expression of heterologous proteins. Subsequently, the ability of L. lactis to express and deliver these proteins to eukaryotic hosts presents a promising approach to achieve potent treatments for various diseases. Here, we have reviewed the characteristics of L. lactis and the expression systems established for this LAB model organism. We also described the experimental applications of L. lactis in disease therapy, especially its role as a vector in vaccination strategies..

.Keyword: Bactofection; Lactic acid bacteria; Lactococcus lactis; Vaccine; Vector